DOCUMENT RESUME

ED 186 467 TM 800 171

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TITLE The Measurement of Opinions in Education: A Source for Administrators and Teachers.
INSTITUTION Minneapolis Public Schools, Minn. Dept. of Research and Evaluation.
PUB DATE Mar 78
NOTE 39p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Affective Measures; *Attitude Measures; *Educational Attitudes; Elementary Secondary Education; Guidelines; Information Utilization; *Opinions; Parent Attitudes; *Participant Satisfaction; Program Attitudes; Questionnaires; Rating Scales; Sampling; Student Attitudes; *Test Construction
IDENTIFIERS Content Validity

ABSTRACT

The measurement of opinions helps to indicate students', teachers', and parents' satisfaction with school programs, as well as students' self concept and affective behavior. In choosing a sample, several issues should be considered: sampling error, sample size, selection procedure, and acceptable response rate. Follow-up survey procedures and questionnaire validity are also important concerns. Guidelines for item construction include: (1) word questions so as to elicit the same interpretation from every respondent; (2) use simple, familiar language; (3) avoid offensive questions; (4) avoid questions which suggest the socially desirable response; (5) include only one issue per item; and (6) do not confuse factual or cognitive items with opinion or affective items. Rating scale item formats are useful in measuring attitudes, opinions, and feelings; a variety of response alternatives may be appropriate. Pilot testing is recommended to insure the validity of the questionnaire. The decision of whether to use hand-tabulated or computer-processed analysis of data should be made before the questionnaires are completed. (GDC)

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Minneapolis Public Schools

# The Measurement of Opinions in Education: A Resource for Administrators and Teachers

Lary Johnson

TM800 171

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March 1978

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## Introduction

The idea for this paper was stimulated by the writer's participation in the August 1977 Minneapolis Public Schools (MPS) Administrators' Conference at St. Olaf College. The writer had been asked to lead one of several small-group sessions designed to build awareness of the usefulness of evaluation for school administrators. "Measuring Opinions" was the topic of the small-group session. During the half-hour session, the writer attempted to highlight (a) the definition and meaning of opinions, (b) the importance of measuring opinions, and (c) the basic steps of developing an opinion questionnaire.

Three events are responsible for the attempt in this paper to clarify and expand the concepts that were presented at St. Olaf. One, the writer's preparation for the administrators' conference reinforced his belief in the importance of measuring opinions and attitudes in an educational setting. Two, the half-hour presentation time limit precluded anything but a brief overview of the topic. Three, the writer was encouraged by the number of administrators who chose to attend that particular session.

This paper was written for administrators and teachers in the Minneapolis Public Schools, but hopefully it will be useful to anyone in the field of education. The two major purposes of the paper are to (1) describe the utility of opinion and attitude measurement in the field of education, and (2) provide some guidelines and techniques for developing instruments to measure opinions and attitudes.

The advice and assistance provided by staff members of the Minneapolis Public Schools' Research and Evaluation Department are gratefully appreciated.

# THE MEASUREMENT OF OPINIONS IN EDUCATION: A RESOURCE FOR ADMINISTRATORS AND TEACHERS

*Do students have positive feelings about their ability to get along with and be liked by other students?*

*Are parents satisfied with the educational program at their child's school?*

*Do graduating seniors feel that they are prepared for their post-high experiences?*

*How do teachers view alternative educational programs?*

*What judgments do students make about the value of particular instructional methods?*

Who cares? Educators should. Educators should find it valuable to have information regarding how various groups feel about educational programs, how they feel about important educational issues and topics, and how students feel about themselves and others. Contrary to the belief of some educators, valid methods for measuring feelings, attitudes, and judgments do exist. The two major purposes of this paper are (a) to present some reasons why the measurement of feelings, attitudes, and judgments is important in education, and (b) to provide some practical guidelines on how to conduct a study to measure feelings, attitudes, and judgments.

## OPINIONS

It is obvious that people have feelings and attitudes toward a wide range of topics and objects. For example, they can range from feelings about the school calendar, to judgments about the value of educational programs, to attitudes about people of various ethnic backgrounds. However, it is not obvious what those feelings and attitudes are unless they are expressed in some manner, either verbally or by some other kind of behavior. For example, an administrator would not know how staff members at a school felt about a revised student discipline policy unless the staff expressed their feelings about it some way (and, concurrently, if the administrator was aware of these

expressions). Two possible ways to measure staff feelings on this topic would be (a) an oral or paper-pencil report of their feelings, and (b) a measure of the extent to which the staff carried out, or followed through, on the procedures identified in the revised policy.

In this paper, *an expression of a personal feeling or attitude is defined as an opinion*. Various methods have been developed to measure opinions, or expressions of feelings and attitudes: observation systems, unobtrusive measures, projective techniques, physiological techniques, self-report. Self-report measures, such as interviews and paper-and-pencil questionnaires, are usually considered to be the most valid approach currently available. Guidelines for the development of questionnaires to measure opinions will be presented later in this paper.

Opinions can also vary greatly along other dimensions. Some opinions may be expressions of attitudes that individuals have developed through many experiences and over a substantial period of time. For example, a student's self-image in various school situations is probably based on an accumulation of many school and non-school experiences. These relatively "deep-seated" attitudes are characterized by (a) having a positive or negative affect, (b) being acquired through experience, (c) being relatively stable, and (d) being a basis for choosing between alternative courses of action. The attitudes that a student has developed toward various subjects through previous school experience will probably determine, in part, the student's selection of classes in high school.

Other opinions may be expressions based on limited, or short-term experiences. A teacher's judgment of the success of a particular workshop probably will be based primarily on the workshop experience. The basis for students' feelings about the use of electronic calculators in math class is probably quite different (in terms of number of experiences, stability, level of affect) than the basis for students' attitudes about the roles of men and women in society.

This difference in the "type" or "level" of the attitude or feeling underlying an expressed opinion was mentioned because, as will be discussed later, it has significance for the development of questionnaires to measure opinions.

## WHY MEASURE OPINIONS?

The measurement of opinions can be a valuable resource to school administrators and teachers in several areas. The use of opinion measurement to assess student affective behavior, to assist with program development, and to help evaluate educational programs will be discussed in the following sections.

### Student Affective Behavior

Many prominent educators in the last half-century have stressed the importance of the affective domain of student behavior. John Dewey said that learning is relatively inefficient when it is not stimulated by the genuine interest of learners. Affective behaviors are generally recognized as important means of education. Students' feelings about their own worth, their feelings about their relationship with their teacher and peers, and their attitude toward school are thought to be contributing factors to learning.

Affective behavior has received equal attention as an end, or student outcome, as well as a means to education. The most recent revision of the Minneapolis Public Schools' "Policies, Bylaws, and Regulations" states that "the student will be provided with opportunities to..."

- Develop a desire for learning.
- Develop positive feelings about self and the relationship to family and others.
- Develop an appreciation of the aesthetic aspects of life.
- Develop the ability to live and work cooperatively with others of varying life styles, socio-economic backgrounds, ethnic/racial compositions, religious persuasions, and talents.

*If student affective behaviors (feelings, attitudes, values,...) are important as educational outcomes themselves, and as a means to attaining other cognitive or psychomotor outcomes, then it would seem to be important that they be measured.*

Self-report measures of opinions have been used in Minneapolis schools both to assess general student attitudes and to measure affective behaviors associated with certain programs. The Student Opinion Questionnaire is administered city-wide to students in grades 7 and 9 to assess students' general attitudes toward school. The students are asked to express their opinions about 93 school-related statements by choosing one of four response

choices; strongly agree, agree, disagree, and strongly disagree. Some examples of the statements and the attitudes measured are:

- School work is interesting (Liking of School)
- I am not very good in school work (Self-Concept As a Learner)
- I am praised when I do good work (Positive Reinforcement)
- I think it is a good idea to have students of different races go to the same school (Racial Attitudes)

Some of these items measure affective characteristics that are primarily considered to be a means to education (e.g. liking of school, positive reinforcement), while other items measure concepts that are often thought of as the ends of education (e.g. self-concept as a learner, racial attitudes).

It is the writer's opinion that student affective behavior is a neglected area in most educational institutions. Occasionally one will find a program that devotes time and resources to the affective area of student behavior. More often it seems that schools pay lip-service to its importance.

We state that integration is a high priority outcome, but how many programs and activities have been implemented beyond desegregation to actually promote mutual understanding, acceptance, and caring among students of different ethnic backgrounds? What do we know about the present level of integration within various school settings?

We state that it is important that students develop positive feelings about themselves. In fact it seems as if every proposal for new programs is compelled to include self-concept as an objective. Do we make these statements because it's "un-American" not to include self-concept in our goal statements, or are we really serious about it? If we truly feel that self-concept is an important objective, then, perhaps, we should ask ourselves some questions. What do we mean by self-concept? Are we concerned about a general self-image or feelings about oneself in more specific situations, such as social skills, academic skills, or "psychological-emotional strength"? Would it be useful to try to measure current levels of "self-concept" to help determine program directions in that area?

*Self-report measures of opinions have the potential to be valuable sources of information whenever student attitudes or feelings are related to the success of educational programs (either as a means to attainment of an objective, or as the objective itself).*

Program Development

Opinions can play an important role in all phases of program development. All new educational programs are based on identified needs. Sometimes the needs have been thoroughly studied and documented, using information such as descriptions of current programs and facilities, measures of student achievement, and judgments of professionals. Opinions have been, and should continue to be, an important source of needs assessment information.

- In the view of staff, students, and parents, what aspects of their school's educational program are most satisfactory and what areas are in greatest need of improvement?
- What preferences do members of the school community have for various alternative educational programs, or for various components of educational alternatives?
- How do students feel about the quality of their relationships with other students in their school (assuming that a goal of the school is to develop quality interpersonal relationships among students; trust, acceptance, openness, respect, caring)?

Program implementation. What are peoples' reactions to new programs? Whenever new programs are implemented, opinions of the participating groups (students, staff, parents) can provide valuable information about the program in general, and about specific aspects of the program operation.

- Did staff members feel that the curriculum and materials adequately covered the objectives of the program?
- Did the students enjoy working in cooperative groups?
- How did students react to the new course in economics? Did they like the individualized format? How difficult was it to complete the work? How new was the course content to them?
- How did counselors feel about the value of the school's guidance program after trying the management-by-objectives system?

The measurement of opinions regarding the appropriateness, acceptance, and value of program operations and activities is an important step in a competently managed project during its developmental stage.

Participant reactions to educational programs do not have to be limited to new programs. Established programs may benefit from periodic review by students and other persons related to the program.

Program Effectiveness

All educational programs have outcome objectives. Sometimes the desired program outcomes are stated explicitly, sometimes they are clearly implied,

and sometimes it is hopefully assumed that the persons responsible for the direction and operation of the program are sharing the same perceptions of the program objectives. Many of these objectives are directly related to changes in student behavior; e.g. academic achievement, student attendance, psychomotor performance. Other objectives are less directly related to student behavior; e.g. staff development, curriculum development, parent involvement in the educational process.

Measurement of opinions can be a useful method for evaluating the attainment of program objectives, although opinions will be more appropriate in some situations than in others. If the program objectives are related to attitudes and feelings, such as the improvement of staff-student relationships, or the development/maintenance of an interest in learning, the measurement of opinions may provide the most valid information regarding program effectiveness. The major task in this situation is to locate, or develop, an opinion measure that represents the domain of affective behavior identified in the objective.

If the program objectives are not in the affective domain -- student achievement, teacher behavior, curriculum -- the measurement of opinions can provide valuable supplementary information to the other measures that relate directly to the attainment of the objectives. For example,

- Overall, did the program staff and program participants feel that the program was worthwhile?
- Overall, did the program participants enjoy being in the program, like the program activities, etc?
- Did the program staff and the program participants feel that the specific program objectives had been attained?

P. E. R. Legislation

School administrators will probably find that a basic understanding of the principles of opinion measurement will be helpful as they develop district and building plans to meet the requirements of the Planning, Evaluating, and Reporting to Public (P. E. R.) legislation. This law, passed in 1976 states that:

> Each year a final evaluation of progress shall be conducted, including both professional and consumer evaluations. The professional staff evaluation shall utilize test results and other performance data along with faculty interpretations and judgments. Consumer evaluation shall include the opinions of students, parents, and other residents of the community served by the school. (underlining added)

The Minneapolis school system's proposed plan to meet the P. E. R. requirements addresses portions of this section of the law. According to the proposed MPS plan, the instructional plan in each local school will include "determining the methods and procedures to be used to evaluate progress and to collect opinions of parents and/or students." "Faculty interpretations and judgments" are not mentioned, although it is possible that evaluation plans at various levels could include opinions of staff members.

Neither the P. E. R. legislation, nor the proposed Minneapolis P. E. R. plan, provides guidelines regarding the content of the professional and consumer evaluations, other than "judgments, interpretations, and opinions." Some opinions that building and district administrators will probably consider are:

- Parent and student judgments about, and satisfaction with, the level of student accomplishment of goals.
- Parent and student satisfaction with various aspects of the educational program.
- Parent, student, and staff opinions about school programs that need improvement, if any, and their priorities for such improvement.
- Staff satisfaction with the services that are provided to support them in their respective positions.

Examples of questionnaire items that might suit P. E. R. evaluation needs are given in a later section of this paper (see page 28).

An attempt has been made to show that opinion measurement can be useful for assessing needs, determining implementation of programs, evaluating program effects, and responding to legislative requirements. In the next section, an attempt is made to describe procedures for measuring opinions using pencil-and paper questionnaires.

## HOW TO MEASURE OPINIONS

How does one measure people's opinions about a particular issue, object, or program? Easy.....simply jot down a few questions and ask some people to respond. Wrong!.....say ninety-nine percent or more of those who have seriously tried. The construction of an instrument that measures opinions is not always the most difficult task encountered by an individual with some experience in the measurement field, but it is not easy, and, at times,

it is downright unsettling. It may take days of work and many revisions of the instrument before one has some confidence (a) that the content of the instrument represents the domain of interest, (b) that the respondents' interpretations of the items will match the investigator's interpretation, and (c) that the response scale is appropriate for one's information needs. Sometimes you never reach a high degree of confidence.

## Goals of the Study

The first step in any study of opinions (perhaps in the study of anything) is to specify, preferrably in writing, exactly what information is wanted. If the topic of interest is described as "student attitudes toward school", more specification is needed before an appropriate measure can be located, or developed. The topic could relate to broad attitudes reflecting the impact of many experiences over a long period of time (e.g. self-concept as a learner, appreciation of fine arts, interest in reading), or the topic could be students' reactions to specific characteristics of an educational institution and its programs. *Clear identification and definition of the topic will increase the probability that useful information will be collected, and will decrease the chances that information will be gathered that is not related to the topic of interest.*

Another early step in planning a study of opinions is to clearly identify the population whose opinions are of interest. It is not uncommon for studies to ask people to express opinions about topics with which they are relatively unfamiliar. Only people whose opinions are pertinent to the purpose of the survey should be surveyed.

## Sampling and Response Rate

Once the population whose opinions are needed has been identified (hereafter, called the population of interest), the issues of sampling and response rate must be considered. Should all of the people in the identified population be surveyed, or should a sample of the total group be used? From how many people must responses be obtained to have results that represent the population? There are no set answers to these questions, although there are some guidelines that will prevent the waste of a lot of effort.

Should the entire population of interest be surveyed? *When the population of interest is large, it is almost always best to use a sample of the population.* A sample will usually be less costly, less time consuming, and

more convenient. A sample is particularly useful when the population of interest is not readily accessible (e.g. students in school are readily accessible, parents are not). If the population is not readily accessible, the effort needed to follow-up people who do not return questionnaires can be substantial. A sample is superior to the total population simply because there will be fewer people to contact a second, and third time. It is crucial that a high rate of return (percentage of people who respond) be obtained. A major source of potential error in opinion studies is missing information.

As an example, assume that the administration was interested in collecting opinions about alternative programs from the parents of the 3,000 junior high students in one area of Minneapolis. Even if resources were available to send questionnaires to 3,000 homes, it is unlikely that more than half of the parents would respond without a costly follow-up effort. If the resources and/or the time were not available to conduct a follow-up effort, the value of the results would be greatly diminished. There is no way of knowing whether or not the opinions of the responding parents represent the opinions of the entire group.

Although limits can be determined for the possible error caused by missing data, the margin of error will be large if the return rate is low. To continue the example, assume that half of the parents responded, and 70% of these respondents said they preferred a "fundamentals" school for their child. If 20% of the parents who did not return questionnaires would have responded similarly, the results would change substantially. The percent who preferred a fundamentals alternative would drop from 70% to 45%.

In this example, a sample of 150 parents (5% of the population) would have satisfactorily represented the total group of 3,000 parents. The follow-up task would be much easier, and the return rate would probably be substantially higher.

Occasionally the use of a sample may not be convenient, particularly with a "captive" group, such as students in a school. It may be less disruptive to the educational program to survey all students than to select and survey a representative sample.

At times it may be politically wise to make an effort to survey all people in the group. For example, if a principal at a particular school

wanted to know how the parents of the 800 students feel about the educational program, the responses of a random sample of 100 parents would probably be sufficient. However, the principal may want to be prepared with a good answer when the other 700 parents ask why they were not included, particularly if the opinions related to a sensitive topic.

Sampling error. Any time a sample is used, a risk (called a sampling error) is taken that the results will not adequately represent the entire population of interest. This sampling error occurs because it is possible to select many different samples from the population. Due to the chance factors in the selection procedure, some samples will be more like the population than will other samples. Two nice features about sampling are that (a) the possible error that can occur because the total population is not surveyed can be kept minimal, and (b) the size of the potential sampling error can be calculated.

Size of the sample. How large should the sample be in order to have confidence that the results will adequately represent the population of interest? Two major factors must be considered. First, how large an error are you willing to risk? If a principal of a school wanted to obtain parents' general opinions about their child's school, a larger possible error might be tolerated than in the situation where the principal wanted parents' opinions about which of several proposed educational alternatives they would choose for their child.

Second, what are the populations of interest? *The groups of interest must be identified prior to sampling to assure that an adequate sample size for each group is obtained.* As an example, the English teachers at a particular secondary school decided to measure students' attitudes toward literature and composition. Rather than survey all 1,500 students, they sampled 300 students, more than enough students to adequately represent the total group of students. After obtaining the results, the teachers decided to look at the responses of Native American students, a subgroup of the total population. Twenty Native Americans were in the sample of 300 students, representing about 100 Native Americans in the total school population. It would not be proper to use the responses of the 20 students in the sample to represent all 100 students. The potential error due to sampling would be quite large. In this study, the proportion of Native Americans randomly

selected to be in the study should be greater than the proportion of other students; perhaps 50% of the Native Americans and 10% of the remaining students.

The absolute number of people in the sample is much more important than the proportion of the population included in the sample. If the population of interest has 1,000 people in it, a random sample of 100 people (or 10% of the population) would adequately represent the population. If the population of interest is 100 people, the sample size would have to be substantially more than 10% to be representative. In fact with 100 people in the population, you would need a sample of 52 people to have about the same sampling error as sampling 100 of 1,000 people. *In most educational situations, an adequate sample size for each group (or subgroup) that you want to say something about will range between 50 and 150 people.*

Selecting a sample. A sample should be drawn such that all members of the population have an equal chance of being in the sample. The most precise method is to assign every population member a unique number and then select the sample members by some random procedure (e.g. table of random numbers, drawing the numbers from a "hat"). This precise method is usually not feasible in educational applications. The most common method, and adequate in most situations, is to select every nth individual from an alphabetical or numerically-ordered list of the population members. If a 20% sample is needed, one of the first five individuals on the population list would be selected randomly, followed by every fifth person on the list after the first person, thereafter.

Response rate. What percentage of the sample must respond in order to be confident that the results represent the opinions of the total population of interest? As noted earlier, the error due to an inadequate rate of return can be substantial. As a rough guideline, the minimum response rate should be 75 percent. If important decisions will be made on the basis of the results, the response rate should be higher. Also, if a sample of the population is used, it must be remembered that the results may be affected by a sampling error even if the response rate is 100%. A concluding point: *be cautious making interpretations and any decisions if you are not sure that the opinions of the responding people represent the opinions of the population of interest.*

Follow-up procedures. When the population of interest is not readily accessible, and questionnaires must be distributed individually (usually by mail) to the potential respondents, the investigator must have a follow-up plan. Return rates for mailed questionnaires are rarely higher than fifty percent, even with a persuasive cover letter and an appealing questionnaire. If time and resources are not available to follow-up nonrespondents, perhaps the study should be canceled.

The following steps have been found to be successful in obtaining a high rate of return on mailed questionnaires.

1. An individual identification number is put on each questionnaire. The respondent is told that the number will be used only to follow-up people who do not return questionnaires. They are given the option of removing the number if they do not feel comfortable with it. A similar procedure, that guarantees anonymity, is to include a separate postcard showing the respondent's name with the mailed questionnaire. The respondent is asked to mail the postcard separately when the questionnaire is returned.
2. A few days after the first mailing, a postcard is sent to all people who have not responded reminding them of the need for their response.
3. About ten days after the first mailing, a second questionnaire is mailed to all non-respondents.
4. About two to three weeks after the first mailing, an attempt is made to contact non-respondents by telephone.

## Validity of Opinion Measures

It is not uncommon to hear the measurement of opinions being downgraded. "There's no objectivity to it." "People don't respond honestly." "I don't have any confidence in the results." Of course there are examples of opinion studies that have little objectivity, where people have not given honest opinions, and where the results do not deserve any confidence. But it does not have to be that way, and typically it is not. A carefully planned study using a good opinion measure can provide valid results. It is possible to elicit honest opinions.

Any self-report measure is limited by what the responding individuals know about themselves and what they are willing to relate. The first limitation can usually be avoided by good planning -- don't ask people to give opinions

about topics with which they are not familiar. The second limitation, exemplified by lack of frankness and giving responses that are socially desirable, can be a serious problem. Students may be unwilling to give their real feelings about a program or a teacher. The opinions expressed by teachers and administrators may be influenced by pressures from their peers and professional organizations. Many people are reluctant to express opinions about themselves and sensitive issues. Any effort made by the investigator to gain the respondents' acceptance and confidence in the study, and assurances that the respondents' anonymity will be protected, will do much to counter tendencies to give socially desirable and insincere responses. Names, or identifying codes, are not needed in most opinion surveys and should not be requested, or used, unless there is a good rationale (such as follow-up of non-respondents, or correlation of the opinion data with other variables).

Content validity is the major issue when determining whether or not an opinion instrument is actually measuring the intended attitudes, feelings, and judgments. Does the instrument adequately sample the specified domain of interest? If one were interested in measuring teachers' attitudes toward career education, a set of items (questions) must be specified that broadly represents the attitudes toward career education that are of interest to the investigator. To ensure that items actually represent the attitudes being studied, it is necessary to have an outline of the kinds of attitudes and types of questions that will be included. In the study of attitudes toward career education, one may decide that the items should represent the following content areas:

- Broad, general attitudes toward career education (e.g. should career education be an important educational objective for all students?).
- Attitudes about the importance of specific career education objectives (e.g. self-awareness, occupational information, decision-making skills).
- Attitudes about how career education should be implemented (e.g. special courses, infused in all classes, out-of-school experiences).
- Teachers' willingness to be involved (e.g. teaching units, developing curriculum, staff development).

A second standard for ensuring content validity is to use sensible methods of constructing and presenting the items included in the opinion measure. If the respondent cannot understand the questions, it is obvious that the results will not be valid indicators of the true opinions of interest. Although some technical methods are available for checking the content validity, content validity will inevitably depend on the judged adequacy with which the domain of interest is sampled and the adequacy with which the opinion instrument is presented to the respondent.

Constructing Items for Opinion Measures

Once the content of the proposed opinion measure has been identified, now should the instrument's items be constructed to maximize its potential validity? Some guidelines are suggested below that will increase the likelihood that respondents will correctly interpret the intended meaning of the items, that respondents will not be frustrated, and that they will cooperate. The guidelines were designed for the construction of paper-and-pencil questionnaires to measure opinions. Many of the suggestions also are appropriate for interview formats and for questionnaires that seek information other than opinions (such as personal data, environmental data, behavioral data, cognitive information).

1. Each item should be worded so that all respondents will interpret it the same way. This is particularly important with questionnaires, since frequently there is no opportunity for two-way communication to resolve any interpretation problems. It is very easy to write ambiguous questionnaire items. A favorite example of ambiguity is included in an attitude-toward-school questionnaire for elementary students.

Do you think your teacher likes the games you play?

How would you interpret this item? Does the teacher like to play the same games as the children? Or, does the teacher approve of the games children play outside of the classroom? Or, does the teacher enjoy the "mischievous" games children play in the classroom? Any time the meaning of the item is not clear, the validity of the questionnaire is threatened.

The following item was included on a good (in my opinion) questionnaire about attitudes toward instructional organization and practices. The respondents were asked to agree or disagree with the statement.

. Schools should concentrate on teaching math and reading.

Will all respondents know what is meant by this statement? The word "concentrate" is somewhat ambiguous. I interpreted the item to mean that schools should strongly emphasize the basic skills of math and reading in relation to other curriculum areas (and primarily in relation to affective areas). Another person's interpretation might be that the item is simply asking how much effort should schools put into teaching math and reading, regardless of the importance of, or emphasis placed on, other curriculum areas.

2. Use as simple words as possible. On a rating scale of teacher behaviors, the rater was asked to judge "the perspicuity of the teacher's classroom presentation." Questionnaires are not the place for ostentatious (that is, showy) displays of vocabulary skills. The results probably would have been more valid, and the rater more comfortable, if the rater had been asked to judge the "clarity of the teacher's classroom presentation."

3. Avoid the use of unfamiliar terminology. Simplicity is a good rule in all questionnaires, and particularly with audiences that may not be familiar with the terminology, or jargon, used in certain fields. Surveys of parents and other community members provide an ideal opportunity to mess up information by using unfamiliar terms. How much confidence would you have in the results of a questionnaire study that had parents express their feelings about developing the following programs at their child's school: cooperative groups, developmental reading, mainstreaming, criterion-referenced testing, mastery learning, multiple-age groups?

4. Avoid words that have double meanings. Some words like "value", "conservative", "liberal" can be interpreted different ways. If you use such multiple-meaning words, you will not know which meaning the respondent had in mind. Similarly, adjectives such as "many", "some", "usually", "often" have different meanings for different people.

5. Do not ask questions that might have a negative effect on the respondent. Material that could be offensive to people should not be included unless it is absolutely necessary to the study. If it is potentially offensive, an explanation should be given for its inclusion. Questions about race, sex, religion, and family may affect the respondent negatively and influence the reliability of responses to other parts of the questionnaire.

6. Do not phrase questions to suggest a response. It is not uncommon to see questionnaire items that openly suggest a certain response. Occasionally they are blatantly "loaded". For example:

. You believe in alternative programs, don't you?

Although more subtle, the phrasing of the following question will probably influence the number of people who respond affirmatively.

. Is it desirable to have counselors in all elementary schools?

Studies have shown that the responses to this question will not be as favorable if both an affirmative and a negative answer are suggested by the question. A better phrasing of the question would be: Is it desirable, or undesirable, to have counselors in all elementary schools?

7. Avoid items that presuppose a certain state of affairs. How would you answer this question that appeared on a survey a few years ago?

. Indian students and non-Indian students get along better this year (agree-disagree response format).

This item obviously suggests that Indian and non-Indian students did not get along as well as they should before this year. Was it valid to imply that state of affairs?

This particular item also exemplifies a problem that arises when measuring opinions of young children. Does the content of the item suggest an attitude or situation that is not within the respondent's level of awareness. For example, is it potentially harmful to suggest that Indian and non-Indian students might have problems getting along with each other?

8. Ask for only one piece of information in each question. "Double-barreled" questions are one of the most common errors of item construction. Respondents were asked to select either a yes or a no answer to this question.

. Do you feel you influence and are influenced by others in your school?

There is no way to answer this question with a yes or no answer if you agree that you influence others, but do not agree that you are influenced by others. The item should be broken into two separate questions:

a. Do you feel that you influence others in your school?

b. Do you feel that you are influenced by others in your school?

Some other examples of double-barreled questions are:

. Was the textbook interesting and informative?

. I like my classroom and my teacher?

9. Separate fact and opinion items. At times it is difficult to determine whether an item is asking for a response of feeling or a response of knowledge. It is easy to mistakenly write a factual item that requires a cognitive response when an opinion item requiring an affective response was intended. Does the following item measure an opinion, or the respondent's awareness of the potential impact of the expectancy-fulfillment phenomenon.

. The belief that minority children can be educated only to a limited degree is one cause of low achievement among these children?

In my opinion, this item measures whether or not the respondent is aware of the possible effects of others' expectations on students' actual performance. It does not seem to measure feelings about minorities, as was intended by the person who wrote the item. Similarly, the following item was supposed to sample the respondent's attitudes toward minorities.

. Knowing the I.Q. of a minority child tells you a great deal about his abilities.

Many people would disagree with this statement because they know that the I.Q. score of a minority child may not be an accurate measure of the child's true abilities.

Items measuring knowledge may provide important information, but they should not be confused with measures of opinions.

Response Formats

Assume that a set of questions has been identified which (a) represents the topic of interest, and (b) maximizes the probability that all respondents will interpret the intent and meaning of the items similarly. About the only task remaining in the questionnaire-development process is to decide what kinds

of responses should be permitted. Sometimes open-ended questions that allow individuals to respond freely, with complete choice of responses. are useful. For example, teachers could be asked to express their opinions about changes, if any, that should be made in the delivery of a particular type of instructional support service to teachers. If the investigator had little idea about what changes would be suggested by teachers, it might be appropriate to give the teachers complete freedom by not listing any possible responses. An obvious disadvantage of open-end questions is tabulation of the responses. Ordinarily, the investigator would have to develop and conduct a "content analysis" procedure that would permit some kind of analysis and summary of the responses. This can be very difficult, time consuming, and subject to error.

Most opinion questionnaires provide a few response options, allowing the respondent to select the one response choice that most nearly corresponds with the respondent's opinion.

Example: The development of positive interracial relationships should be an objective of the school system's educational program?

_____ 1. Strongly Agree
_____ 2. Agree
_____ 3. Disagree
_____ 4. Strongly Disagree

Measures of attitudes. The agree-disagree type of response format is particularly useful when measuring the intensity, or strength, of an individual's feelings about some topic. The item in the example might be included in a questionnaire designed to measure racial attitudes. Other examples of types of attitudes that can be measured with the agree-disagree format are self-esteem, feelings about socialism, attitudes toward education, etc.

Questionnaires measuring these attitudes usually consist of several positively and negatively phrased statements, and an agree-disagree response continuum for each statement. Two examples of agree-disagree response formats are given on the next page for two items included in a measure of students' general attitudes toward school.

Format 1

| | | | |
|---|---|---|---|
| I like school. | Completely Disagree | ___ ___ ___ ___ ___ ___ ___ | Completely Agree |
| My classes are boring. | Completely Disagree | ___ ___ ___ ___ ___ ___ ___ | Completely Agree |

Format 2

| | Strongly Agree | Agree | Slightly Agree | Slightly Disagree | Disagree | Strongly Disagree |
|---|---|---|---|---|---|---|
| I like school. | 1 | 2 | 3 | 4 | 5 | 6 |
| My classes are boring. | 1 | 2 | 3 | 4 | 5 | 6 |

There are two distinct differences between the two example response formats. Format 1 has seven response choices with a midpoint, while Format 2 has six choices and no midpoint. The midpoint allows the respondent to express neutral feelings, indicating that the respondent neither agrees nor disagrees with the statement. Many think that it is important to have a response option for situations where the respondent truly has neutral feelings.

Others think that the inclusion of a midpoint is not necessary and encourages respondents to "cop out" of expressing the direction of their attitude. The writer feels most comfortable using an even number of choices, with no midpoint, for general attitude measures. This preference stems from the opinion that almost all people have positive or negative feelings, if only to a slight degree, about topics or objects with which they are familiar. If the respondents are not familiar with a topic, they either (a) should not be given the questionnaire, or (b) they should be given a response choice labled "don't know." A "don't know" response choice is distinctly different than a scale midpoint that indicates neutral feelings. If a midpoint is included on the scale, the respondents should be instructed that the midpoint should be used only when feelings are neutral - when they cannot agree or disagree with the statement. The number of response choices for an agree-disagree format usually range from four to eight points.

The second difference is that format 1 is "anchored" at the two endpoint choices, while format 2 is anchored at every choice by both a verbal and numerical label. An anchor is a numerical or verbal label that describes, or gives additional meaning, to the response choice. It is absolutely necessary that the value of the two endpoints be identified. Anchoring the other response choices is not necessary, but, in the writer's opinion, it is helpful

to have all choices labeled with both a verbal and numerical descriptor. The anchors help remind the respondents of the meaning of the responses. The numbers also facilitate computer analysis of the responses.

The response formats used with general attitude questionnaires, such as the agree-disagree response options, are usually considered to be equal interval scales. In an equal interval scale, all differences between pairs of adjacent response choices are assumed to be equal. That is, the difference in the strength of the feeling measured by the first and second response choices is the same as the difference between the second and third choices, and so on throughout the scale of responses.

Since the distances between adjacent response choices are equal, a mean (average) score can be calculated for each question for a group of respondents. In Format 2 above, a mean score of 1.8 on the "I like school" item falls between the Strongly Agree and the Agree response options, indicating a favorable attitude by the responding group as a whole

Frequently an individual's responses to the items on an attitude questionnaire that has equal interval responses are added to give a total score. For example, if a questionnaire contains ten items that measure "Interest in Learning", and has a six-point agree-disagree response scale, an individual's total score could range from 10 (the least favorable response was chosen for all ten items) to 60 (the most favorable response was always selected). Of course, the mean total score for a group of respondents also could be determined. However, before the responses to the items are summed, the investigator should be confident that the items are measuring the same attitude. One of the most common mistakes in educational research and evaluation is to sum the responses on several items that may not be measuring the same attitude.

Feelings about specific situations. Although the information from attitude questionnaires should be valuable to school administrators and teachers, it is not likely that these people will develop this type of questionnaire without technical assistance. It is more likely that administrators and teachers will be actively involved in the development of questionnaires that measure less "deep-seated" feelings about specific situations or experiences; e.g. reactions to instructional methods, feelings about budget priorities, judgments about the quality of curriculum materials, preferences for various activities.

A major difference between measures of these situation-specific opinions and the attitude questionnaires previously discussed is that the responses to the items in the situation-specific questionnaires are always reported

separately. It would not make sense to sum the responses across several items, because (1) each item may not sample, or represent, the same content, and (2) the information from each item is uniquely important. Since each item is treated separately, it is not necessary that every item have the same set of response choices, as with an agree-disagree format. As an example, the following items might be used to measure junior high students' opinions about their participation in Project ZOOM, a special program for gifted students.

(a) Overall, how much did you learn in Project ZOOM?

_____1. A lot

_____2. Some, but not a lot

_____3. Little or nothing

(b) Overall, how much did you enjoy being in Project ZOOM?

_____1. A lot

_____2. Some, but not a lot

_____3. Little or not at all

(c) To what extent were the activities in Project ZOOM challenging to you?

_____1. Very few of the activities were challenging

_____2. Some, but less than half, of the activities were challenging

_____3. At least half, but not all, of the activities were challenging

_____4. All, or almost all, of the activities were challenging

(d) To what extent did you learn or do things in ZOOM that were different than the things you learned (or did) in your other classes?

_____1. All, or almost all, of the things were different

_____2. At least half, but not all, of the things were different

_____3. Some, but less than half, of the things were different

_____4. Very few of the things were different

It would not be appropriate to find a mean score for each item, or to find a total score for all items combined, on this type of questionnaire because (a) the response choices for each item probably do not form equal intervals, and (b) the items may not be measuring the same content. Even if it were technically proper to sum the responses across items, a total score is much less important than the ZOOM students' responses to the individual items. Each item should be reported separately, indicating the number and percentage of respondents who selected each response.

Example

| | | N | % |
|---|---|---|---|
| Overall, how much did you enjoy being in Project ZOOM? | A lot | 19 | 20% |
| | Some, but not a lot | 47 | 50% |
| | Little, or not at all | 28 | 30% |
| | | 94 | 100% |

Constructing response choices. A few basic guidelines for writing response choices are given next. Careful attention to the development of understandable and technically sound response options is crucial to the validity of the questionnaire.

1. Have a response category for all possible opinions. If school principals were asked to rate teachers on the following scale, how would a principal respond if he had not observed the teacher enough to make a judgment?

. In your opinion, how much does the teacher encourage students to express their own point of view?

_____ 1. Very much
_____ 2. Much
_____ 3. Some
_____ 4. Little
_____ 5. Not at all

One option is to skip the item, leaving the investigator with no information. Another option is to make a "best" guess, providing potentially invalid information. Finally, the respondent can add a response, which probably cannot be included in the analysis, but at least informs the investigator that something is wrong with the response categories. None of these options solves the problem. Principals should have been given a "don't know" or "have not observed" response category.

In the following example, some respondents might have selected a "both helped and hindered" choice, if it had been included.

. What impact has the reorganization of the school system's curriculum support system had on you and your job?

_____ 1. Helped me do my job
_____ 2. Hindered me in doing my job
_____ 3. Neither helped nor hindered me
_____ 4. Don't know, or not qualified to judge

2. Include enough response choices to cover the desired levels of discrimination. For some opinions, two response categories, such as "yes" and "no", are sufficient.

. Do you want a pop machine in the lunchroom?

_____ 1. Yes
_____ 2. No

For other situations, it might be preferable to have a response format that represents several levels of feeling. The following six-point response scale covers a range of feelings from positive to negative, allowing discrimination among several levels of approval or disapproval.

. How much do you approve or disapprove of having students represented on your school's budget allocation committee?

_____ 1. Strongly approve
_____ 2. Approve
_____ 3. Slightly approve
_____ 4. Slightly disapprove
_____ 5. Disapprove
_____ 6. Strongly disapprove

In this example, it was thought that it was important to know the degree to which the respondents approved or disapproved of student representation. The response choices in this example illustrate another characteristic of good response formats that have more than two choices: The options are spread out across the continuum of possible responses.[1] The following question also exemplifies a good set of response choices.

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[1]A broad range of response choices, that appear to represent "equally-spaced" levels of feelings, also is appropriate when comparisons between responses to two or more questions are wanted. The broader range of responses produces greater variation among respondents, permitting a more precise determination of the relationships that might exist between questions (or whatever characteristics or content the questions are measuring).

. How much do you think students in your school enjoy meeting and talking with students of races other than their own?

_____ 1. Very much
_____ 2. Somewhat
_____ 3. Slightly
_____ 4. Not at all

In a study of people's opinions about health problems, the following response format was initially proposed to measure the respondents' feelings about how serious they felt certain health problems were in the Minneapolis community.

_____ Not very serious
_____ Serious
_____ Very serious

The "Not very serious" response category was not satisfactory. It seemed to cover too much territory; everything less serious than the "Serious" category. Also, the phrase itself (Not very serious) seemed confusing, and subject to more than one interpretation. The following change in response format improved the scale several ways: (a) eliminated the confusion, (b) increased the discriminatory power, and (c) added an option for respondents who did not feel qualified to make a judgment.

_____ Not a problem at all
_____ A problem, but not serious
_____ A serious problem
_____ A very serious problem
_____ Don't know

## Pilot Testing

Usually good questionnaires take a lot of effort to develop. Once a substantial amount of time has been invested, many researchers find it difficult to keep from making "one more final revision." Questionnaires can always be improved. However, the developmental process must stop sometime. A useful procedure, when it is felt that the questionnaire is close to its final form, is to give it to a group of people who are similar to the population that will be surveyed eventually. This pilot group will provide some valuable information. Did the pilot group understand the questions?

Was the response format clear? Did they react negatively to the content of any questions? The pilot group is usually asked to write any comments related to these issues on the questionnaire. In short, pilot testing increases the probability of obtaining valid information.

Data Processing

The questionnaires have been returned. Now to figure out a way to tabulate, or summarize, the responses. A data processing plan should be decided upon before the questionnaire is finalized. The key factor is whether the responses will be tabulated by hand, or whether the responses will be transferred by keypunch to data cards for computer processing and tabulating.

In many studies it is convenient, fast, and economical to tabulate the responses by hand. For example, fifty teachers were asked to give their opinions about the quality of an in-service program on drug abuse. A simple tabulation form could be devised to tally the number and percentage of teachers who chose each response to each item.

| Question # | Resp 1 | Resp 2 | Resp 3 | Resp 4 | Resp 5 |
|---|---|---|---|---|---|
| 1 | 12 | 13 | 10 | 9 | 6 |
| 2 | 7 | 15 | 14 | 12 | 2 |
| 3 | 3 | 5 | 18 | 13 | 11 |
| 4 | 24 | 15 | 10 | 1 | 0 |

However, in many other studies, the hand tabulation of responses is an enormous undertaking. In these situations, computer processing methods should be used. It is not unusual to have a study where the hand tabulation of responses to a questionnaire would take literally hundreds of hours, while computer tabulation of the same data would take eight hours of keypunch time, two hours of a programmer's time, and ten seconds of computer time.

Hand tabulation of results is not recommended in the following situations:

1. The combination of the number of questionnaires and the number of items on the questionnaire is large. It is difficult to set an absolute number as a limit, but it might be considered reasonable grounds for a grievance to subject anyone to the task of hand tabulating 500 questionnaires with 25 items.

2. The responses will be broken down by subgroups within the total group. For example, the results of a questionnaire for teachers are needed for the total group of responding teachers, by the sex of the teacher, by subject matter taught, by years experience, etc.
3. The responses to one item will be compared with another item. What is the relationship between student ratings of counselor helpfulness and their opinions about the relevancy of their high school program?

If it is decided that hand tabulation is not feasible, the questionnaire must be designed for computer data processing. This involves a relatively simple system of numbering questions and responses to fit the format of computer data cards. However, it is usually difficult, and frequently impossible, to convert to this format after the questionnaires have been completed.

## ADDITIONAL PRACTICAL APPLICATIONS

Some guidelines for constructing questionnaires to measure opinions have been suggested. Using these guidelines, a few applications will be discussed in this section. Together with the examples that were given earlier in this paper, these illustrations should provide the administrator and teacher with a basic background for working with questionnaires that measure opinions

### Perceptions of Change

Educators, students, and parents are occasionally asked to judge the impact of various aspects of an educational system (such as programs, operational procedures, policies) on specified goals and objectives of the system. For example, after two years of being desegregated, a parent involvement program was initiated at an elementary school to promote improved communication, understanding, and cooperation among staff, parents, and students. A questionnaire was developed to measure staff and parent opinions about the impact of the program on staff-parent relationships. A portion of the questionnaire follows:

. In your opinion, has the parent involvement program had an impact on the following objectives?

| | Yes | No | Don't Know |
|---|---|---|---|
| 1. Communication between parents and staff | ____ | ____ | ____ |
| 2. Understanding of parent concerns by staff members | ____ | ____ | ____ |

At first glance the questions and format may seem all right, until an attempt is made to answer the questions, or to interpret the results. Readers familiar with the previous pages of this paper should be able to detect some of the problems.

In item 1, what does "Communication between parents and staff" mean? Several interpretations are possible. It could be interpreted as quantity of communication. Or, it could be interpreted to mean a certain quality of communication, such as openness or honesty. Similarly, in item 2, several interpretations of "parent concerns" are possible; concerns about their child's school progress, concerns about situations indirectly related to school, concerns about the operation of the school.

The response format also should be revised. For example, assume that Respondent A feels that communication (item 1) is better and appropriately marks the "Yes" response category. Respondent A also feels that the staff has become less understanding of parent concerns as a result of the parent involvement program, and again appropriately marks "Yes." In other words, "Yes" means the program had an impact, but the direction is unknown.

The following revised format eliminates these problems, increasing the validity of the results.

. Listed below are several types of relationships between parents and staff members. Give your opinion about the impact of the parent involvement program (p.i.p.) on each relationship by choosing one of the four responses:

Circle 1, if the p.i.p. <u>increased (or improved)</u> the relationship

Circle 2, if the p.i.p. <u>had no effect</u> on the relationship

Circle 3, if the p.i.p. <u>decreased (or worsened)</u> the relationship

Circle 4, if you <u>don't know</u>, or don't feel qualified to judge

| Type of Relationship | Increased (Improved) | Had No Effect | Decreased (Worsened) | Don't Know |
|---|---|---|---|---|
| 1. Amount of communication between parents and staff. | _____ | _____ | _____ | _____ |
| 2. Staff understanding of parent concerns about desegregation | _____ | _____ | _____ | _____ |

P.E.R. Applications

As indicated earlier, the MPS plan to meet the P.E.R. legislative requirements includes the collection of opinions of parents and students. What parent and student opinions would be useful to collect? Some potentially useful opinions, including content and format of the questionnaires, are suggested below.

Importance of educational goals. What goals do parents and students feel are important for their school's educational program? The content of the following proposed question was taken from the goals described in Minneapolis Public Schools "Policies, Bylaws, and Regulations", and from a recent report on educational goal priorities.[2]

. Listed below are several possible goals of an educational program. In your opinion, how important is it that the educational program at your school provide students with opportunities to develop in each of these areas?

Circle 1, if it is very important
Circle 2, if it is important
Circle 3, if it is not important
Circle 4, if you have no opinion, or don't know

| | | | | |
|---|---|---|---|---|
| Develop skills in reading | 1 | 2 | 3 | 4 |
| Develop skills in writing | 1 | 2 | 3 | 4 |
| Develop skills in computation | 1 | 2 | 3 | 4 |
| Develop skills in speaking | 1 | 2 | 3 | 4 |
| Develop a desire for learning | 1 | 2 | 3 | 4 |
| Develop a problem solving approach to learning | 1 | 2 | 3 | 4 |
| Develop decision-making skills | 1 | 2 | 3 | 4 |

Other items (goals) that could be included in this question are: become aware of educational and career opportunities; become aware

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[2] R. W. Faunce, Thomas McCormick, and Sara Clark. An Approach To Setting Educational Goal Priorities in the Minneapolis Public Schools. Photoduplicated report No. C-73-28. Minneapolis Public Schools, July 1974.

of self; develop positive feelings about self; develop special talents and creative abilities; develop habits, attitudes, and understandings necessary to maintain good physical health; learn about and try to understand the changes that take place in the world; learn how to get along with others of different backgrounds and lifestyles; develop the skills and attitudes necessary to assume a responsible role in our democratic society; develop an appreciation of culture and beauty in the world; learn how to use leisure time; understand and practice the skills of family living.

Additional information about parents' and students' opinions regarding the importance of these goal areas could be obtained by asking the following question.

. In your opinion, do you feel that the emphasis of your school's educational program should be increased, remain at its present level, or be decreased in each of the following goal areas?

Circle 1, if it should be increased

Circle 2, if it should remain at present level

Circle 3, if it should be decreased

Circle 4, if you do not feel qualified to answer

| | | | | |
|---|---|---|---|---|
| Develop skills in reading | 1 | 2 | 3 | 4 |
| Develop skills in writing | 1 | 2 | 3 | 4 |
| Develop skills in computation | 1 | 2 | 3 | 4 |

Etc., other goal areas would be listed similar to previous question.

Parent and student satisfaction with school. Do parents and students feel that the goals of their school's educational program are being achieved? These opinions seem to be logical information to collect as part of any P.E.R. plan that involves parent and student evaluation of the educational program. The following question format makes it possible to include any of the goals identified in the previous section, plus any other program activities for which satisfaction ratings are wanted. A sample of eight possible program opportunities and activities are shown.

. Indicate the extent to which you are satisfied with the following aspects of the school's educational program by circling one of the five response choices.

Circle 1, if you are very satisfied

Circle 2, if you are satisfied

Circle 3, if you are dissatisfied

Circle 4, if you are very dissatisfied

Circle 5, if you have no opinion or don't know

| | |
|---|---|
| Opportunities to develop writing skills | 1 2 3 4 5 |
| Opportunities to develop reading skills | 1 2 3 4 5 |
| Extra-curricular activities | 1 2 3 4 5 |
| The way staff deals with student behavior problems | 1 2 3 4 5 |
| Physical education program | 1 2 3 4 5 |
| Science education program | 1 2 3 4 5 |
| Opportunities for parent involvement | 1 2 3 4 5 |
| Opportunities to promote social and emotional growth | 1 2 3 4 5 |

The MPS Research and Evaluation Department has used two questionnaires[3,4] to collect student opinions about school. Some of the areas assessed, with sample items, are shown below. Students responded to each item by selecting one of four choices: strongly agree, agree, disagree, strongly disagree.

General Liking of School

I like school.

My classes are boring.

Curriculum Relevance

This school teaches me the things I want to learn.

The work I do in school is not worthwhile.

Student-Teacher Relationships

I think my teachers understand me.

My teachers are fair in their dealings with me.

My teachers do not listen to what I have to say.

General Progress in Learning

I don't think I am learning much in school.

I am satisfied with how much I am learning.

The questionnaire used with the alternative school students included thirteen items that measured opinions about more specific progress in learning. Students indicated how much school has helped them in each area by choosing one of three responses: a lot, some, or "little or none". Some of the items were:

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[3] Lary Johnson. School-Related Attitudes of Students Attending Secondary Alternative Schools. Photoduplicated report No. C-75-45. Minneapolis Public Schools, October 1975.

[4] Lary Johnson. School-Related Attitudes of Minneapolis Junior High School Students May 1972 to May 1975. Photoduplicated report No. C-74-69. Minneapolis Public Schools, March 1976.

Improving my reading skills.
Improving my math skills.
Learning about different careers and jobs.
Learning how to get along with other people.
Improving my writing skills.
Becoming more responsible for my behavior.

Program Evaluation

Earlier in this paper it was emphasized that opinion measurement is a useful tool to help with the development and evaluation of educational programs. Opinions have been collected frequently in Minneapolis schools to measure reactions to specific program activities and to measure feelings about the extent to which programs have met their objectives. Some additional examples of how opinions have been used for program evaluation are given below.

A program for potential senior high dropouts was implemented to improve basic skills, to improve attitudes toward school, and to clarify educational and vocational goals. The following question was used to obtain student reactions to some of the program activities.

. Indicate how useful each of the program activities was to you by checking one of the four choices.

| | Very Useful | Somewhat Useful | Not Useful | Did Not Do |
|---|---|---|---|---|
| Shadowing people on the job | _____ | _____ | _____ | _____ |
| Career unit in social studies | _____ | _____ | _____ | _____ |
| Field trips | _____ | _____ | _____ | _____ |
| Tutoring by another student | _____ | _____ | _____ | _____ |
| Work program | _____ | _____ | _____ | _____ |

The students in the program also were asked to rate the degree to which the program helped them in several goal areas.

. For each of the areas listed below, indicate how much the program has helped you this year.

| | A Lot | Some | None |
|---|---|---|---|
| Improved my reading skills | ____ | ____ | ____ |
| Became aware of what I want to do after high school | ____ | ____ | ____ |
| Learned about careers and jobs | ____ | ____ | ____ |
| Improved my math skills | ____ | ____ | ____ |
| Learned how to get along with adults | ____ | ____ | ____ |
| Learned how to get along with other students | ____ | ____ | ____ |

As another example, staff members were asked to give their opinions regarding the effect of the school system's human relations program.

. As a result of the past three years of Tuesday Human Relations Programs:

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| I feel that I improved my interpersonal skills. | ____ | ____ | ____ | ____ |
| The members of my school staff developed more positive working relationships. | ____ | ____ | ____ | ____ |
| I am aware of the values and outlooks of cultural and racial groups other than my own | ____ | ____ | ____ | ____ |
| I got to know other staff members better. | ____ | ____ | ____ | ____ |

## SUMMARY

The intent of this paper is twofold: (1) to create an awareness among educators that the measurement of opinions (defined as expressions of feelings and attitudes) can be a useful resource tool for program development and the determination of program effectiveness, and (2) to provide a set of guidelines

for the development of questionnaires to measure opinions. Hopefully, the remarks about opinion measurement that are presented in this paper will be helpful to school administrators and teachers.

## A List of Checkpoints

The design and conduct of studies that measure opinions using paper-and-pencil questionnaires can be difficult. Thorough planning saves time and increases the probability that usuable information will be obtained. The following list of checkpoints can be used as a reminder, particularly to people with little or no experience with opinion measurements, of important points that should be considered during the conduct of the study.

1. Define the goals of the study -- identify specifically, in writing, the information that is wanted (what attitudes, feelings, judgments are needed).
2. Identify the population whose opinions are of interest.
3. Decide whether a sample or the total population of interest will be asked to complete the questionnaire.
4. If a sample is used, make sure the sample size is adequate for each subgroup in the population whose opinions will be reported separately.
5. Obtain more than one judgment regarding whether or not the questionnaire items are actually measuring the intended attitudes or feelings.
6. Review the construction of question stems carefully to avoid misinterpretations by the respondent: ambiguous terms, unfamiliar terminology, double meanings, sensitive items, loaded questions, double-barreled questions, items based on knowledge rather than opinion.
7. Use response formats that have response choices for all possible opinions and that cover the desired levels of discrimination.
8. Pilot the questionnaire on a group that is similar to the population that will eventually be surveyed.
9. Have well-planned follow-up procedures to assure an adequate return rate.
10. Decide whether responses will be tabulated by hand or by a computer before the questionnaire is printed.
11. Do not report any results when the rate of return is low, unless you clearly indicate that the amount of error is unknown and could be substantial.

## References

The following short list of references is given for those who wish to go beyond this paper to study questionnaires as a method to measure opinions.

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